

# Work Order ID 67902



Page 1

Monday, April 04, 2011 11:27:14 AM

Item ID: D350-636-015

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 4/8/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: *MFC*

Date: 11-04-04

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D4168

A

IIN-D350-636

H

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-015 CHG 001

*CHG 002*  
*W/AS*

BC9721

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00



Skidtubes

Skidtubes

**Memo**

0.00

Skidtubes

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr, section H-H

4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting, section H-H

5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168, detail A

6- Drill pilot holes as per Dwg D4168 sheet 4 (D4168-1 details). Drill using drill Jig DT8150 &amp; DT8863A for first side only DT8863B for second side (detail B)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.  
\*\*\*SECOND SIDE\*\*\*

8- Drill most FWD wearplate hole using DT9678 locating off of 66.54" hole.

9-Open up holes of Detail A to 0.297" (total of 2 holes per side) and .201" (total of 1 hole per side) open holes of detail D section H-H to 0.500" as per dwg D4168

10-Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004

BB

11/04/21

BE 11/04/26

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

A/R Aluminum Rod

batch: ☐

m116577

BE 11/04/26

BB 11/04/26

11-Grind welds flush as per Dwg D4168

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8 11/04/27

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 11/04/27

(70)

W/O:		WORK ORDER CHANGES					
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Reference:

Run Start



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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 0 BE 11/04/28  
BP 11/04/28

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 BE 11/04/28

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open up holes of Detail C and ground handling section AL-AL to 0.625" (total of 8 holes per side) as per dwg D4168.

2-Open up holes of Detail B to 0.750" (total of 4 holes per side) as per dwg D4168.

3- Open float hole to 0.500" (4 per side) section AJ-AJ

Open wearplate holes to size as per dwg (4 holes per sides) , section CG-CG

4-Chamfer holes of Detail B, C, ground handling section AL-AL and float holes section AJ-AJ per dwg D4168 (welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015  
A/R ☐ ☐ ☐ Sikaflex-291 batch: 116948

exp. date: 12/01/15

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 and D4170-1 & QSI004 (welding instructions on sheet 8)

A/R ☐ ☐ ☐ Aluminum Rod batch: 1116577

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

B 11/04/28

3 BE 11/05/05

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Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



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10-Grind welds flush as per Dwg D4168

11-Spot face ground handling holes section (total of 4 places per side) as per  
dwg D4168, section AL-AL

12- C bore section CG-CG

13- Deburr holes

*BE* 11/05/05  
*BE* 11/05/07

170



QC

Quality Control

QC10- Inspect visual per QS1004- ground welds

0.00

Memo

0.00

*8 11/05/09*

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

*8 11/05/09**FC*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Stop



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190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 0 ML 11-5-19

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

M 116964

Memo

0.00

Powder Coating

START TIME: 3:25

OVEN TEMPERATURE: 320°

FINISH TIME: 3:55

1 BL 11-5-19

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

1 0 ML 11-6-19

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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220

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

✓ 1- Install inserts as per Dwg D4168

1 0 11 11/04/10

230

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

✓ 1-Inspect for Foreign Objects

✓ 2-Spray inside of tube with "LPS-3" batch: NIA

✓ 3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168

SIKA FLEX 241

BATCH: N1116945EXP DATE: 12/01

✓ 4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube

A/R 55-o-ring lube batch: N1114109✓ 5-Coat all exposed fasteners with "LPS Procyon" batch: N1114396

1 6 11 11/04/10

W/O:		WORK ORDER CHANGES					
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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
250	Pick Kit	0.00							
Packaging	Memo	0.00							
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00							
QC	Memo	0.00							
Quality Control	*****ensure antiseize is on AN8C21A bolts*****								

W/O:		WORK ORDER CHANGES					
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD350-636-015								
	Location: _____								
	PPP rev: _____								
	<i>PPP 679021</i>								
280		0.00							
	QC21- Final Inspection - Work Order Release								
QC	Memo	0.00							
Quality Control									

*PPPD 679021**11/6/15**MF 11-06-15*

W/O:		WORK ORDER CHANGES					
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# Picklist Print

Monday, April 04, 2011 11:27:05 AM

Page 1

Work Order ID: 67902

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH




Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev:A 10.09.28 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3C34A  BOLT		Purchased	No			230	Each	20.0000	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST353		20							
				116003		20							
AN3C36A  BOLT		Purchased	No			230	Each	209.0000	4	4			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				FG		14							
				101261		4							
				116590		10							
				FP-B		71							
				111925		71							
				ST303		24							
				116381		2							
				116590		22							
				ST353		100							
				117125		100							
AN3C37A  BOLT		Purchased	No			230	Each	0.0000	1	1			

117343 11/6/13

W/O:		WORK ORDER CHANGES					
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Work Order ID: 67902

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Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C42A

Purchased

No

230

Each

60.0000

1

1



BOLT



*Handwritten: 11/6/135*

Location

Loc Qty

Loc Code

ST354

60

60

250

Each

73.0000

2

2

AN960JD816

Purchased

No



1/2" washer, Alum



*Handwritten: 11/6/135*

Location

Loc Qty

Loc Code

FP-A

73

73

230

Each

177.0000

7

7

D3873-1

Manufactured

No



Bushing



*Handwritten: 11/6/135*

Location

Loc Qty

Loc Code

ST088

177

77

100

230

Each

2.0000

1

1

D4154-041

Manufactured

No



Wearplate Assembly



*Handwritten: 11/6/135*

Location

Loc Qty

Loc Code

FP009

2

2

65092

*Handwritten: 1368361*

*Handwritten: 11/6/135*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Monday, April 04, 2011 11:27:06 AM

Work Order ID: 67902

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D4170-1

Manufactured No

230

Each

38.0000

4

4



Bushing

Location

Loc Qty

Loc Code

LG

4

63322

4

LG002

34

65912

23

66158

11



*Ben/p5/s  
8 68225 x4*

D4171-1

Manufactured No

230

Each

16.0000

1

1



Bushing

Location

Loc Qty

Loc Code

ST135

16

65646

16



*x1*

MS21043-3

Purchased No

230

Each

1,072.000

5



Nut

Location

Loc Qty

Loc Code

FG

80

103691

80

FP-B

16

112314

16

ST301

976

112314

976



*8/4*

*xl*

*xl*

*xl*

*xl*

*xl*

*xl*

*xl*

*xl*

*xl*

*xl*

*xl*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, April 04, 2011 11:27:07 AM

Page 4

Work Order ID: 67902

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0363R

Purchased

No

230

Each

4,848.000

9



Washer

Location

Loc Qty

Loc Code

ST297

4848

113889

79

114742

4769

NAS1515H3L

Purchased

No

230

Each

341.0000

4



WASHER

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

301

113362

301

D2744

Manufactured

No

110

Each

47.0000

1



Cap

Location

Loc Qty

Loc Code

LG002

47

62715

18

65086

29

D2600-3-BENT

Manufactured

No

110

Each

9.0000

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

9

68138

66875

9

Monday, April 04, 2011 11:27:07 AM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

## Picklist Print

Page 5

Monday, April 04, 2011 11:27:07 AM

Work Order ID: 67902

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D2743 Manufactured No 160 Each 33.0000 8 8



Crossbolt Spacer

Location	Loc Qty	Loc Code
----------	---------	----------

LG001	33	
-------	----	--

64003	33	
-------	----	--

D2739 Manufactured No 160 Each 0.0000 1 1



350 I Beam

D3490-3



Cross Bolt Spacer

Location	Loc Qty	Loc Code
----------	---------	----------

LG001	37	
-------	----	--

63556	8	
-------	---	--

66968	29	
-------	----	--

D3490-1 Manufactured No 160 Each 31.0000 4 4



Cross Bolt Spacer

Location	Loc Qty	Loc Code
----------	---------	----------

LG001	31	
-------	----	--

62450	31	
-------	----	--

ALS4-1032-225 Purchased No 230 Each 1,305.000 4 4



Insert

Location	Loc Qty	Loc Code
----------	---------	----------

FP-B	224	
------	-----	--

110768	224	
--------	-----	--

ST282	1081	
-------	------	--

110768	1081	
--------	------	--

B 67766 (+8)

B 11/04/2011

B 67774 (x4)

B 67773 (x4)

ul uloc 110

x 4

Monday, April 04, 2011 11:27:07 AM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, April 04, 2011 11:27:07 AM

Work Order ID: 67902



Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D3492-041

Manufactured No

230 Each

156.0000 8 8



Plug Assembly



all u/a c/a PTO = 7

Location

Loc Qty

Loc Code

FP-B

156

B69819

x8

63994

16

65068

20

66937

120

AN8C35A

Purchased No

230 Each

44.0000 1 1



BOLT



all u/a c/a

Location

Loc Qty

Loc Code

FP-A

44

115188

3

115960

18

116874

23

x1

D3488-041

Manufactured No

230 Each

13.0000 1 1



Blade Fitting Assembly, LH



all u/a c/a

Location

Loc Qty

Loc Code

FP007

2

B68108

x1

61689

2

FP008

11

62002

11

W/O: 67902		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/06/10	230	Assemble with NAS1611-010 "O" ring... The apply Molykote "O" Ring lubricant/M114189 M110915 orings	jel	11/06/10	110		8 11/06/10

Part No: D350-636-015 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



# Picklist Print

Monday, April 04, 2011 11:27:07 AM

Work Order ID: 67902



Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

AN6C44A	Purchased	No	230	Each	54.0000	4	4
							<u>all 4/04/10</u>
BOLT							

Location	Loc Qty	Loc Code
FG	2	
103964	2	1117407
FP-B	2	
115936	2	
ST344	50	
116874	50	

MS21083C8	Purchased	No	230	Each	33.0000	1	1
							<u>all 4/04/10</u>
NUT							

Location	Loc Qty	Loc Code
FP-B	13	
115884	13	1117291
ST303	20	
117010	20	

D3631-1	Manufactured	No	230	Each	108.0000	8	8
							<u>all 4/04/10</u>
Washer							

Location	Loc Qty	Loc Code
FP-A	8	
63647	8	1368062
ST072	100	
66959	100	

AN960C10L	Purchased	No	230	Each	0.0000	4	4
							<u>(x4) all 4/06/10</u>
washer							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, April 04, 2011 11:27:07 AM

Page 8

Work Order ID: 67902

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230

Each

64.0000

8

8



Bushing



HL 11/06/10

Location

Loc Qty

Loc Code

FP-A

23

1368248

x8

63315

23

ST021

41

63315

41

AN960C816L

Purchased No

230

Each

0.0000

1

1



UAS1149C0832R / M114915



HL 11/06/10

WASHER

D3492-043

Manufactured No

230

Each

83.0000

8

8



HL 11/06/10 PTO

Plug Assembly

Location

Loc Qty

Loc Code

FP-B

83

1368257

x8

66150

8

66931

75

AN3C6A

Purchased No

230

Each

280.0000

4

4



HL 11/06/10

BOLT

Location

Loc Qty

Loc Code

FP-A

45

111982

45

ST351

235

111982

10

116419

75

116549

50

116704

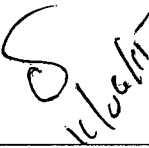
100

x4

Monday, April 04, 2011 11:27:07 AM

Shop Packet Print

Page 8

W/O: 67902		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/06/10	230	Assemble with WAST611-013 / M117291... then apply Molykote "o" ring Lubricant M114189	M	11/06/10	x2		

Part No: D350-636-015 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, April 04, 2011 11:27:07 AM

Work Order ID: 67902

Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011



Start Qty: 1.00

Required Qty: 1.00

MS21043-6 Purchased No 230 Each 583.0000 4 4  
  
 NUT  all u/oc 1.0



Location Loc Qty Loc Code

FG 20  
 103693 20  
 FP-A 88  
112314 88  
 ST301 475  
 112314 475

D3493-1 Manufactured No 250 Each 61.0000 2 2  
  
 Washer  11/6/13



Location Loc Qty Loc Code

ST062 61  
 62677 21  
 66975 40

MS21083C8 Purchased No 250 Each 33.0000 2 2  
  
 NUT  all u/oc 1.0

Location Loc Qty Loc Code

FP-B 13 1117291 12  
 115884 13  
 ST303 20  
 117010 20

AN8C21A Purchased No 250 Each 56.0000 2 2  
  
 BOLT  all u/oc 1.0

Location Loc Qty Loc Code

ST345 56  
116381 56

Monday, April 04, 2011 11:27:07 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Monday, April 04, 2011 11:27:07 AM

Work Order ID: 67902



Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250

Each

69.0000

1

1



Blade, 350 Skidtube

Location

Loc Qty

Loc Code

ST466

69

61341

29

63589

40

1 ~~11~~ 11/05/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149C0363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149C0332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149C0832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

# GENERAL NOTES:

- 1) MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
  - CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
  - POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
  - BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- 8) WELD PER DART QSI 004
- 9) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
  - MINIMUM YIELD TENSILE STRENGTH = 35 KSI
  - MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 10) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
- 11) POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

#67902

RELEASED  
2010-09-15

A NEW ISSUE		SC	10.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 1 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRELIMINARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR DISSEMINATED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

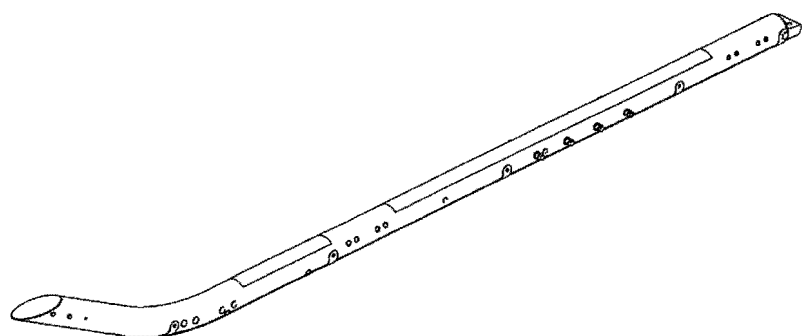
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

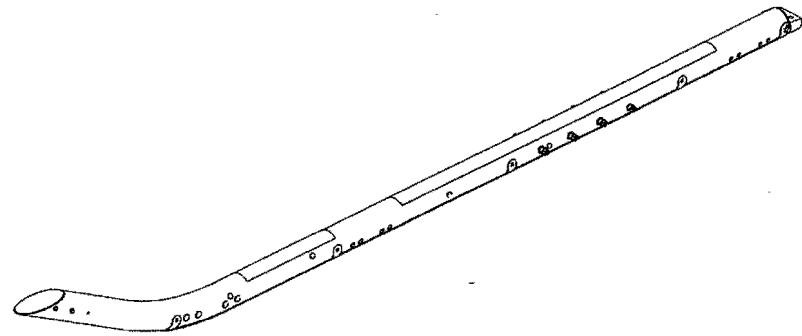
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

67902



**D4168-041 350 SKIDTUBE ASSEMBLY, LH**



**D4168-042 350 SKIDTUBE ASSEMBLY, RH**

**RELEASED**  
2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO. <b>D4168</b>	REV. A
MFG. APPR.	<i>[Signature]</i>	SHEET 2 OF 11	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>350 SKIDTUBE ASSEMBLY</b>	NTS
DATE	<b>10.08.09</b>	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRELIMINARY AND FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

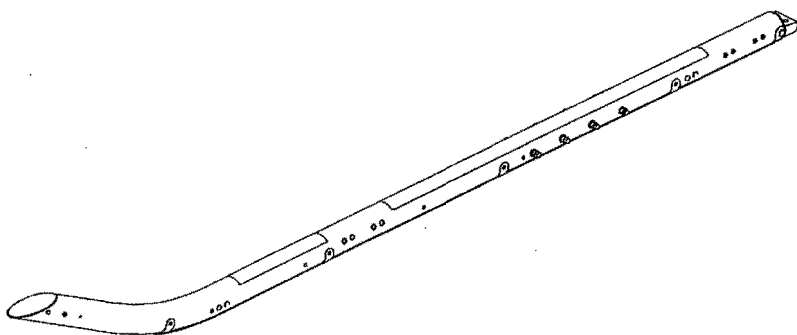
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

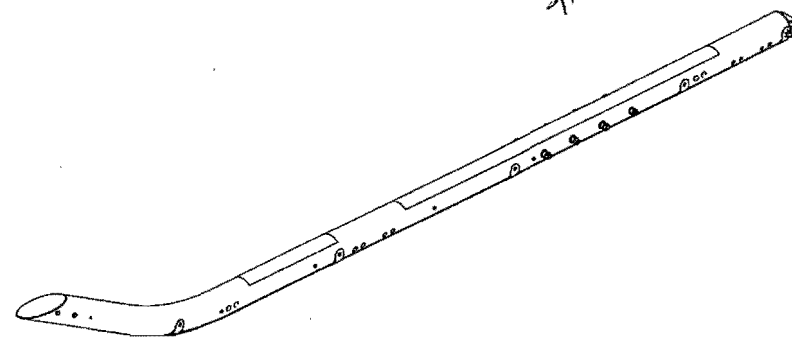
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



D4168-043 350 SKIDTUBE ASSEMBLY, LH



D4168-044 350 SKIDTUBE ASSEMBLY, RH

**RELEASED**  
2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 3 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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#67902

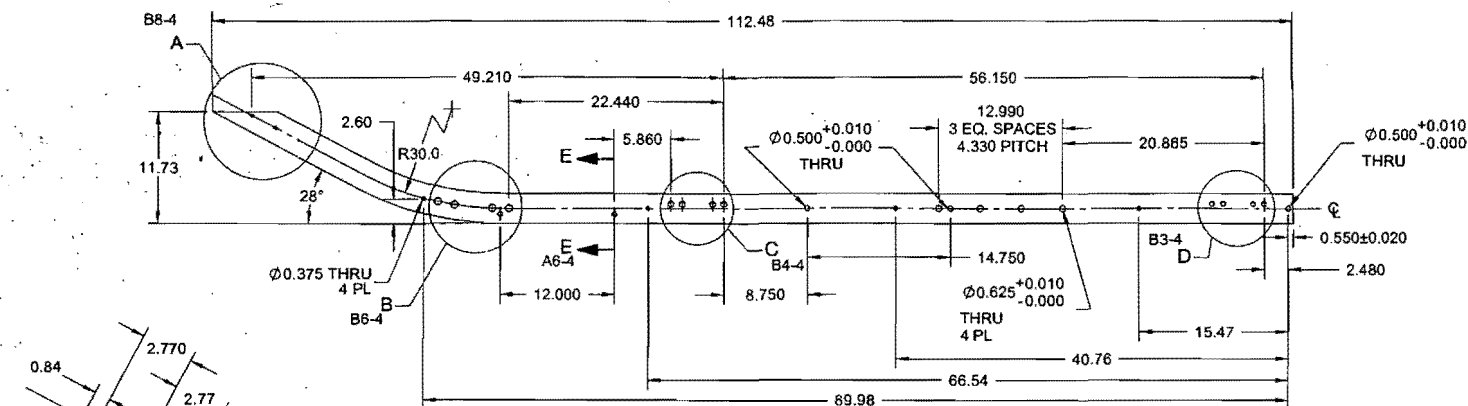
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

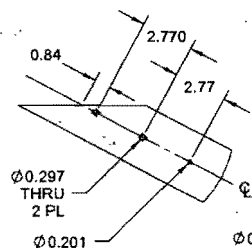
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

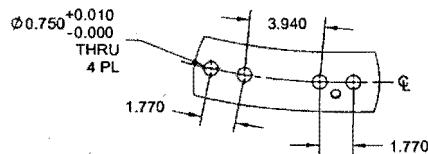
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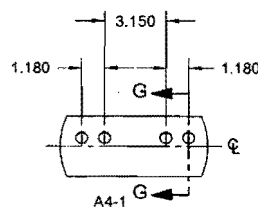
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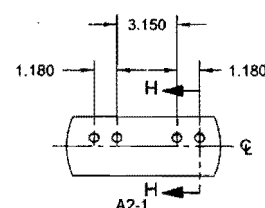
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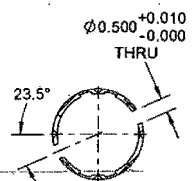
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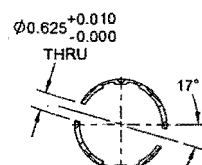
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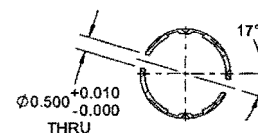
**DETAIL D**  
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**SECTION E-E**  
SCALE 3X, 2 PL






**SECTION G-G**  
SCALE 3X, 4 PL



**SECTION H-H**  
SCALE 3X, 4 PL

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

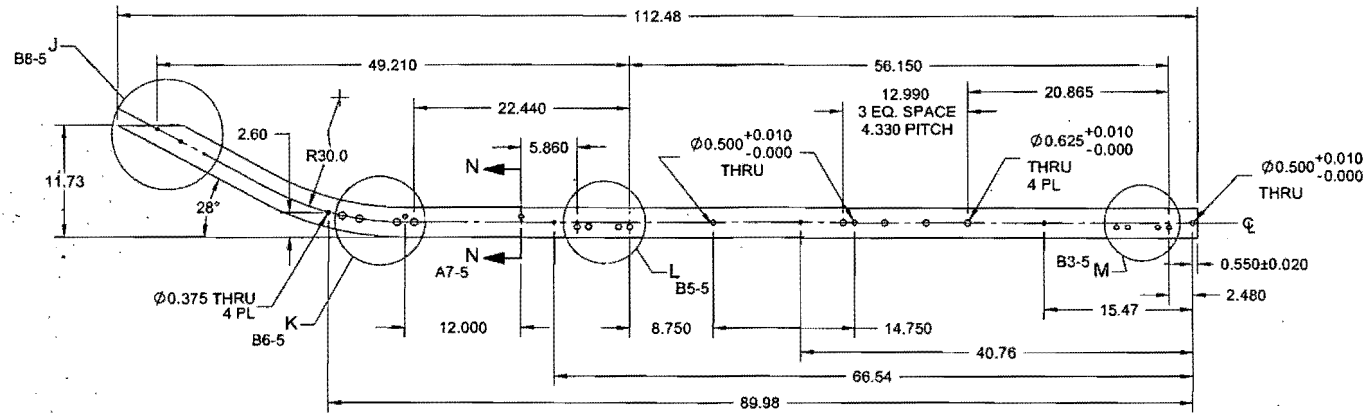
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

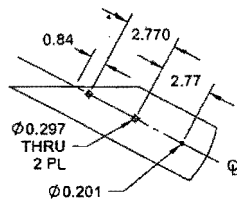
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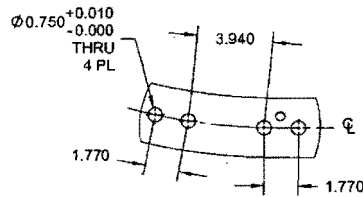


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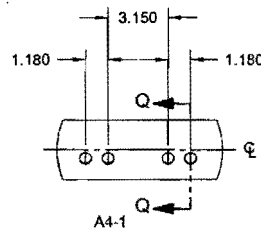
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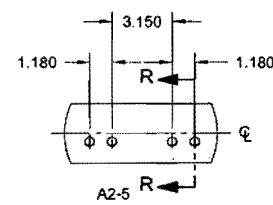
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SCALE 2X



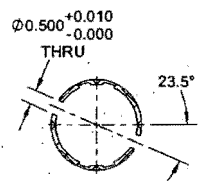
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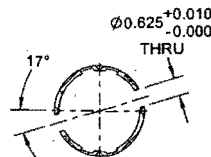
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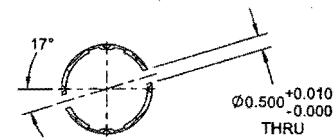
**DETAIL M**  
SCALE 2X



**SECTION N-N**  
SCALE 3X, 2 PL



**SECTION Q-Q**  
SCALE 3X, 4 PL



**SECTION R-R**  
SCALE 3X, 4 PL

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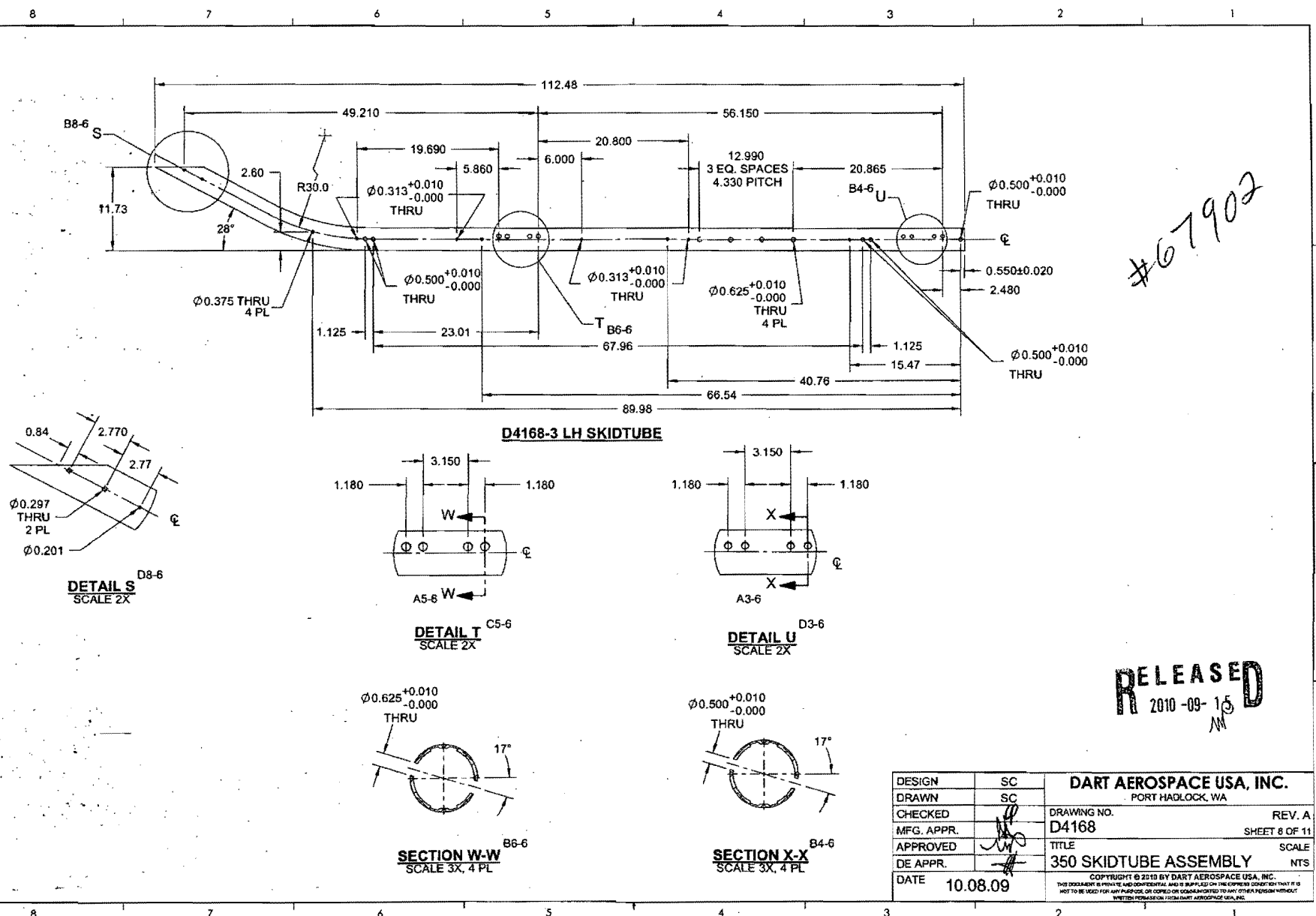
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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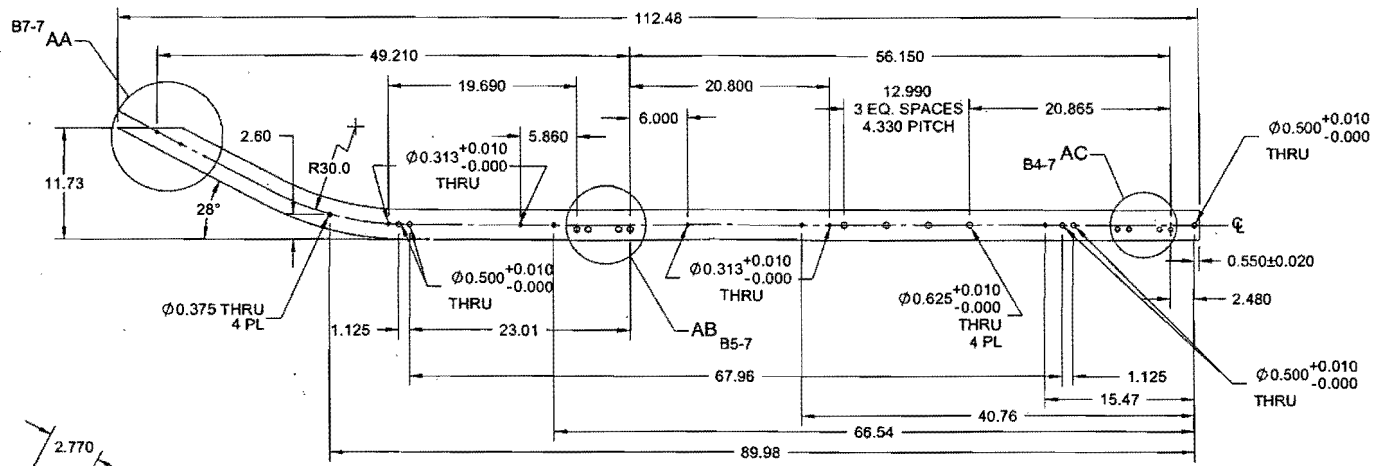
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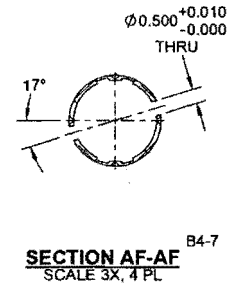
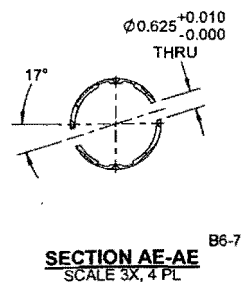
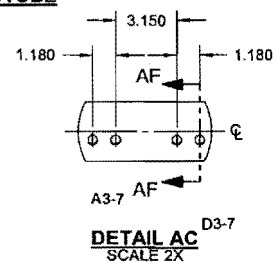
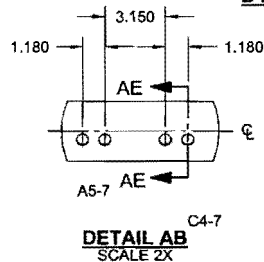
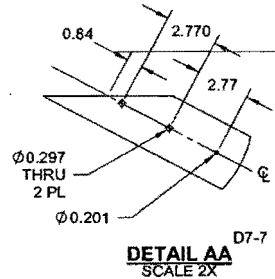
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8 7 6 5 4 3 2 1



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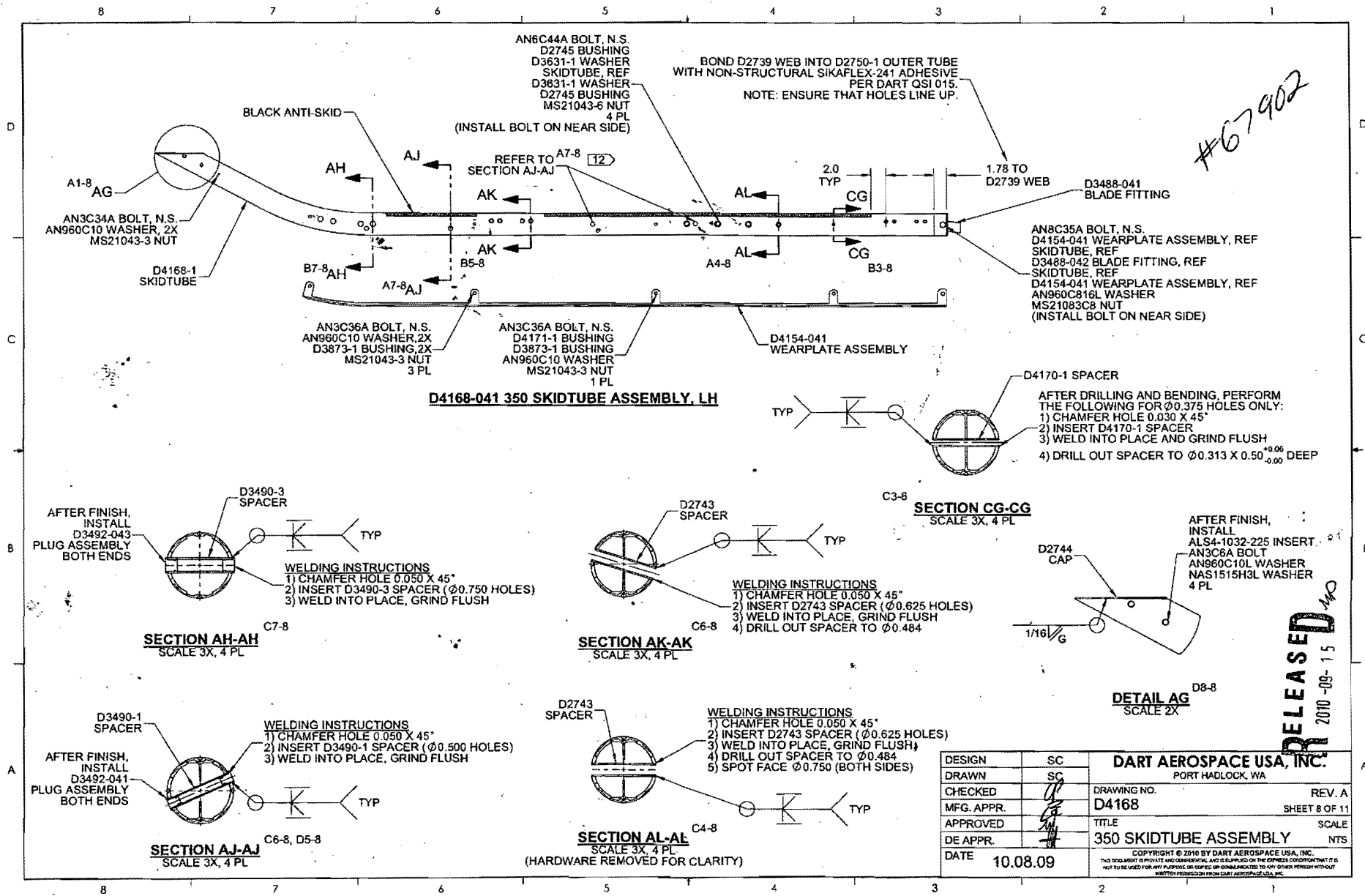
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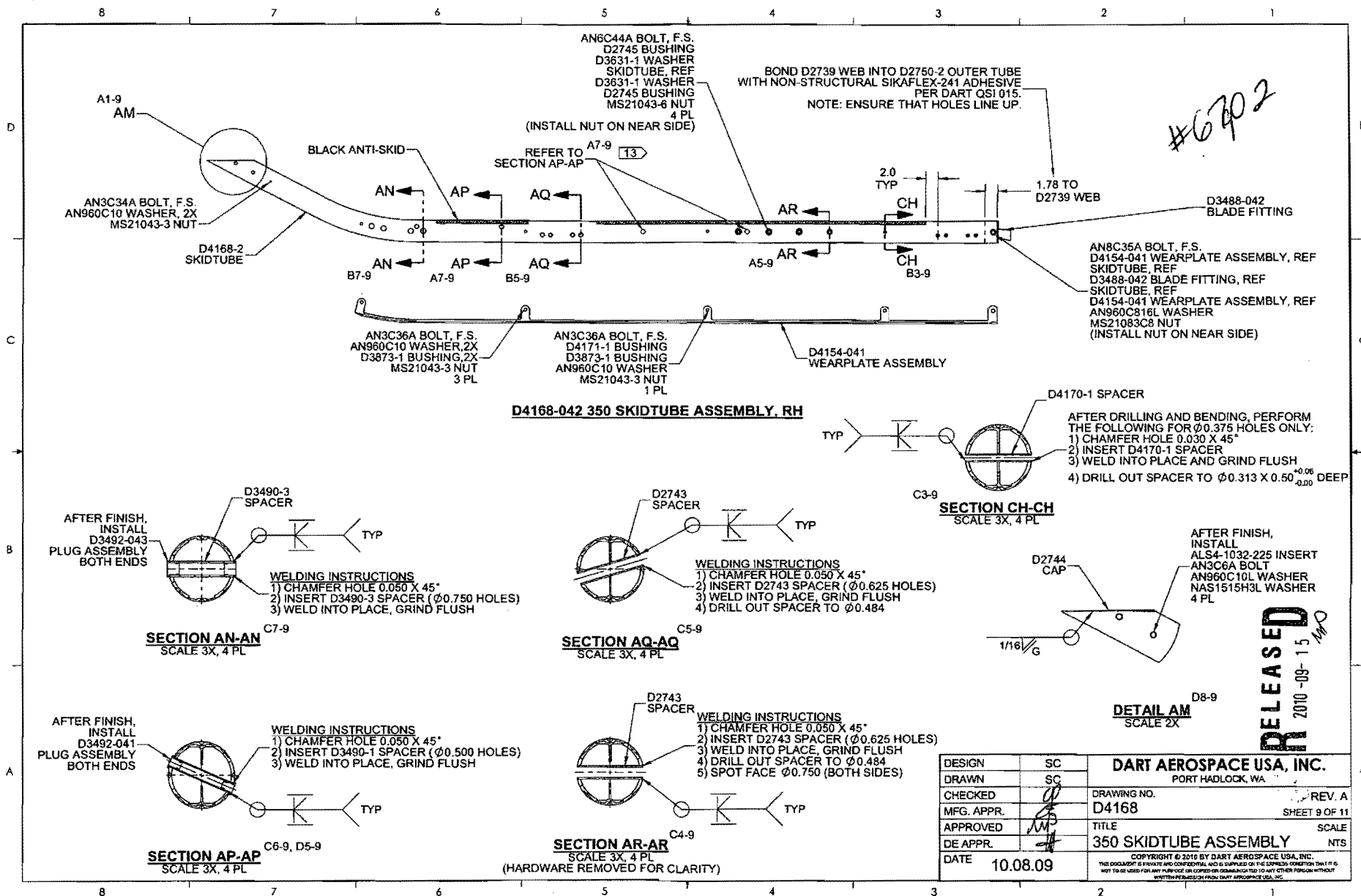
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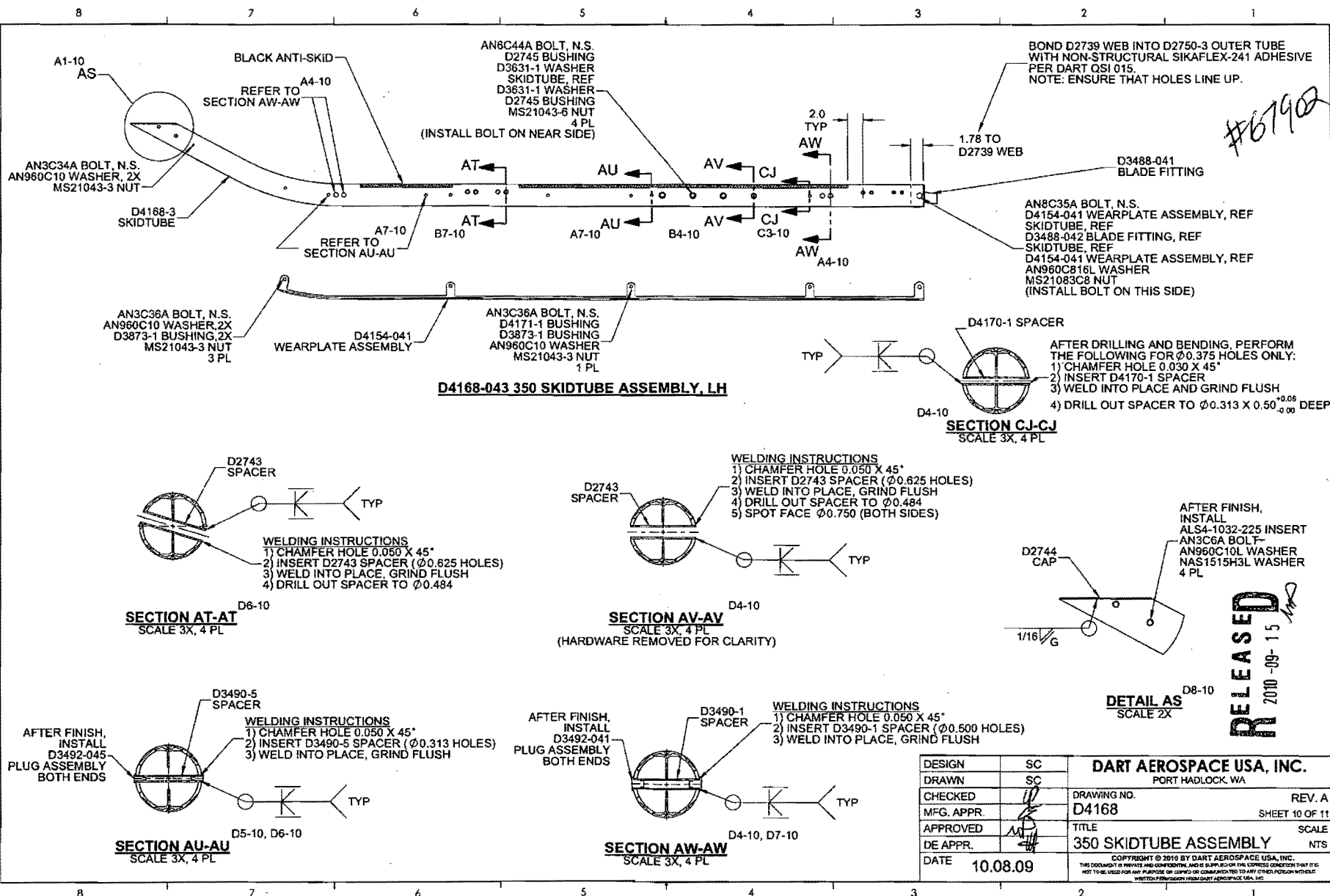
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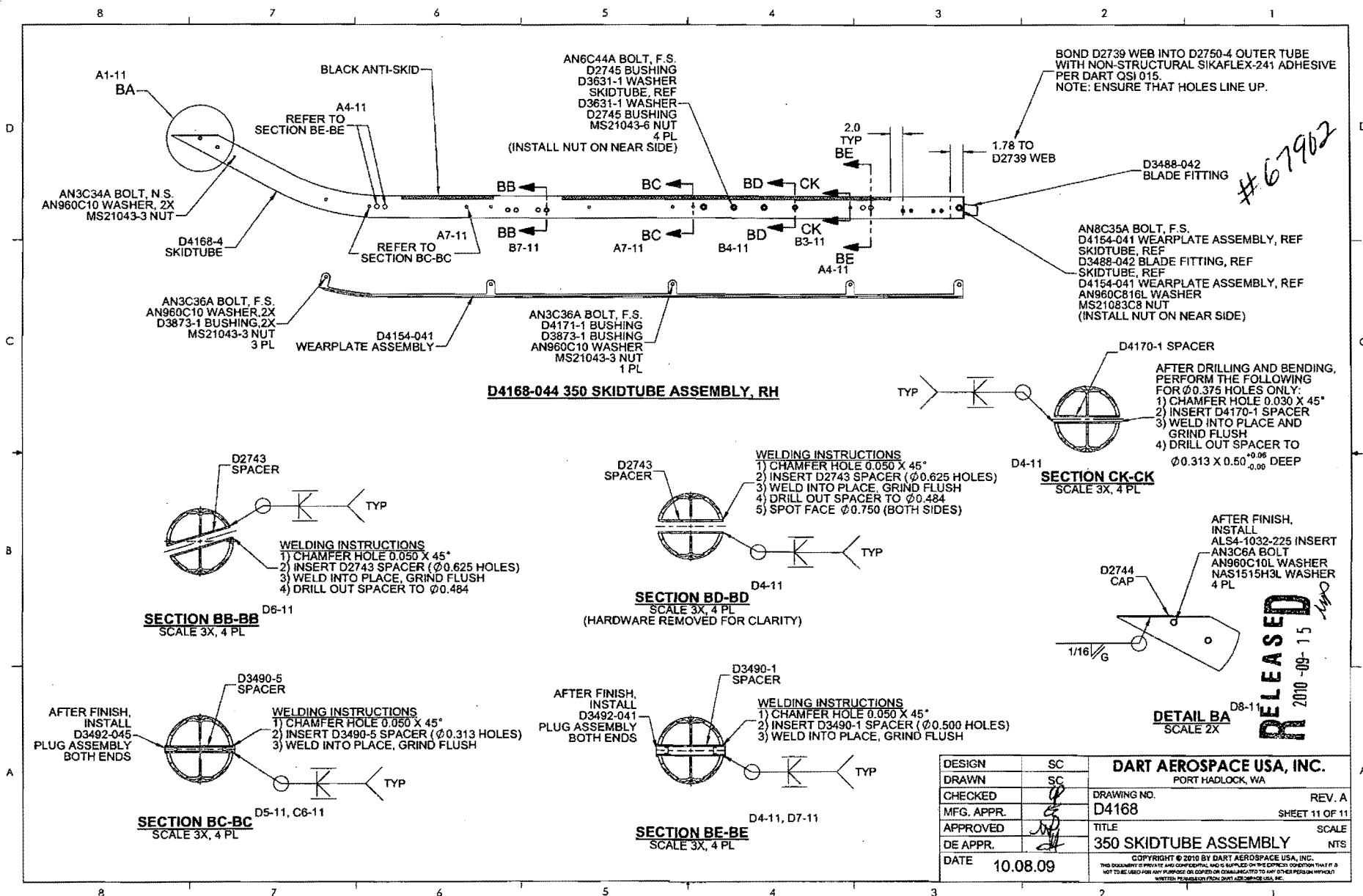
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

NO. 248

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 67178  
Part number: D350 636 015  
Description: 350  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminum  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Pat Leary Date of Test Coupon 11.04.05  
Welder Barclay Elliott Date of Test Coupon 11.04.05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

